# CURRICULUM VITAE
**September 2024**

**NARJES ABBASABADI, Ph.D.**
Assistant Professor of Architecture

Department of Architecture
College of Built Environments
University of Washington
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Sustainable Intelligence Lab (SIL)
https://silab.be.uw.edu

# I. CAREER OVERVIEW

## I.A. EDUCATION

| 2019 | PH.D. in Architecture, Technologies of the Built Environment (Architectural and Building Sciences/Technology) |
|---|---|
| | Illinois Institute of Technology (IIT) |

Dissertation:

*An Integrated Data-driven Framework for Urban Energy Use Modeling (UEUM)*

Award, Honor, Recognition:
- The 2020 ARCC Dissertation Award Honorable Mention, Architectural Research Center Consortium (ARCC), 2020.
- The 2019 Best PhD Dissertation Award, IIT, 2019.
- Merit Scholarship, Teaching & Research Assistantship, IIT, 2014 – 2018.

| 2012 | Master of Architecture |
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| | Tehran Azad University |

| 2008 | Bachelor of Architecture |
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| | Tehran Azad University |

## I.B. ACADEMIC APPOINTMENTS

| 2022-present | Assistant Professor of Architecture |
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| | Department of Architecture, College of Built Environments |
| | University of Washington (UW), Seattle, WA |

| 2020-2022 | Assistant Professor of Architecture |
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| | School of Architecture, College of Architecture, Planning and Public Affairs |
| | University of Texas at Arlington (UTA), Arlington, TX |

| 2019-2020 | Adjunct Professor |
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| | College of Architecture |
| | Illinois Institute of Technology (IIT), Chicago, IL |

| 2018-2019 | Research Assistant |
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| | College of Architecture |
| | Illinois Institute of Technology (IIT), Chicago, IL |

| 2014-2017 | Teaching Assistant |
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| | College of Architecture |
| | Illinois Institute of Technology (IIT), Chicago, IL |

## I.C. ACADEMIC AFFILIATIONS

| 2023-present | Faculty Affiliate, Data Science Affiliate, UW eScience Institute |
|---|---|
| 2023-present | UW Civil & Environmental Engineering (CEE) PhD Program, Faculty |
| 2022-present | UW Built Environments (BE) PhD Program, Core Faculty |
| 2023 | UW College of Built Environments (CBE) LEADS Program Cohort |

**I.D. PROFESSIONAL PRACTICE**

2017    Architect
Adrian Smith+Gordon Gill Architecture (AS+GG), Chicago, IL
Full time
*Key Projects: The World Expo 2020; Al Wasl Plaza*

2013    Founding Partner & Architect
ICAAUD Architects, Tehran, Iran

2006    Architect & Director
AOA Consulting Architects & Engineers, Tehran, Iran

**I.E. LICENSURE & CERTIFICATION**

2022    Association of College and University Educators (ACUE) Certified, Effective Teaching Practices, Endorsed by the American Council on Education (ACE).

2013    Architectural Practice License
Tehran Construction Engineering Organization, IRI Ministry of Road & Urban Development

2013    Consulting Services Qualification, Level 3, specialized in residential, commercial, educational, institutional, and industrial buildings
General Governor of Tehran, Civil Affairs Department, IRI Ministry of Interior

**I.F. AWARDS, HONORS, AND RECOGNITIONS**

2020    Douglas Haskell Award for Student Journals. American Institute of Architects (AIA) New York, Center for Architecture, for Issue 03: Buildings, Cities, and Performance I., ISSN 2688-0776. IIT Architecture Chicago.

2020    2020 ARCC Dissertation Award Honorable Mention. Architectural Research Center Consortium (ARCC). PhD Dissertation, An Integrated Data-driven Framework for Urban Energy Use Modeling (UEUM).

2019    Best PhD Dissertation Award. Illinois Institute of Technology, College of Architecture.

2019    Best Paper Award Candidate (8 shortlisted out of 87 accepted paper). Architectural Research Centers Consortium (ARCC).

2019    A select audience for the Art Rosenfeld Symposium on Energy Efficient and Grid Interactive Buildings and recognized as one of "The Next Art Rosenfelds". Lawrence Berkeley National Lab.

2018    U.S. Department of Energy (DOE) Race to Zero Design Competition (Solar Decathlon Competition, Design Challenge). 2nd Place. Teach IllinoisTech. U.S. Department of Energy (DOE), National Renewable Energy Laboratory (NREL).

2018    SISE Fellow, Summer Institute on Sustainability and Energy. University of Illinois in Chicago (UIC).

2013    Design Competition, Rafsanjan Industrial Complex (IRC). 1st Place, Project: Kish Island Hotel, Persian Gulf., Team: ICAAUD Architects & collaborated with Civitel Hotels & Resorts, Athens, Greece.

## II. RESEARCH & CREATIVE SCHOLARSHIP

### II.A. JOURNAL EDITORIAL

| | |
|---|---|
| 2024-present | **Abbasabadi, N.** & Ashayeri, M. (Guest Editors). MDPI Journal. [Architecture] Special Issue: *Transforming Built Environment Performance through AI-Driven and Physics-Based Simulations*. |
| 2020-present | **Abbasabadi, N.** (Review Editor). *Frontiers in Sustainable Cities,* Specialty section: Urban Energy End-Use. |
| 2019-2020 | **Abbasabadi, N.** (Editor). *Prometheus Journal*, Issue 03: Buildings, Cities, and Performance I., ISSN 2688-0776. IIT Architecture Chicago. https://prometheus.library.iit.edu/index.php/journal/issue/view/3 |
| | I served as the editor of the third issue of the Prometheus Journal, which received the 2020 Haskell Award from AIA New York's Center for Architecture. |

### II.B. PUBLICATIONS

**Citation Summary**

My citation statistics* from Google Scholar are:

596 citations

*Data current as of Sep 10, 2024

### 1. BOOK

**Abbasabadi, N**., & Ashayeri, M. (Eds.). (2024). *Artificial intelligence in performance-driven design: Theories, methods, and tools*. Wiley. ISBN: 978-1-394-17206-1.

### 2. BOOK CHAPTERS

**Abbasabadi, N**. (2024). Understanding social dynamics in urban building and transportation energy behavior. In N. Abbasabadi & M. Ashayeri (Eds). *Artificial intelligence in performance-driven design: Theories, methods, and tools* (pp. 211-230). Wiley. ISBN: 978-1-394-17206-1.  https://doi.org/10.1002/9781394172092.ch10

**Abbasabadi, N**., & Ashayeri, M. (2024). Machine learning in urban building energy modeling. In N. Abbasabadi & M. Ashayeri (Eds). *Artificial intelligence in performance-driven design: Theories, methods, and tools* (pp. 31-55). Wiley. ISBN: 978-1-394-17206-1.  https://doi.org/10.1002/9781394172092.ch2

**Abbasabadi, N**., & Ashayeri, M. (2024). Digital twin for citywide energy modeling and management. In N. Abbasabadi & M. Ashayeri (Eds). *Artificial intelligence in performance-driven design: Theories, methods, and tools* (pp. 251-276). Wiley. ISBN: 978-1-394-17206-1.  https://doi.org/10.1002/9781394172092.ch12

**Abbasabadi, N**., & Ashayeri, M. (2024). Occupant-driven urban building energy efficiency via ambient intelligence. In N. Abbasabadi & M. Ashayeri (Eds). *Artificial intelligence in performance-driven design: Theories, methods, and tools* (pp. 187-209). Wiley. ISBN: 978-1-394-17206-1.  https://doi.org/10.1002/9781394172092.ch9

Ashayeri, M., & **Abbasabadi, N**. (2024). A hybrid physics-based machine learning approach for multi-domain energy and exposure modeling. In N. Abbasabadi & M. Ashayeri (Eds). *Artificial intelligence in performance-driven design: Theories, methods, and tools* (pp. 57-79). Wiley. ISBN: 978-1-394-17206-1. https://doi.org/10.1002/9781394172092.ch3

**Abbasabadi, N**., & Ashayeri, M. (2017). Towards an adaptive urbanism beyond hard control: The theories of Johnson and Lefebvre. In M. Couceiro da Costa (Ed), *Architectural Research Addressing Societal Challenges.* (1st ed., vol. 1, pp. 257-62). CRC Press/Taylor & Francis Group.

## 3. PEER-REVIEWED JOURNAL ARTICLES

**Abbasabadi, N**., & Ashayeri, M. (2024). From Tweets to Energy Trends (TwEn): An exploratory framework for machine learning-based forecasting of urban-scale energy behavior leveraging social media data. *Energy and Buildings*. 317, 114440. https://doi.org/10.1016/j.enbuild.2024.114440

Ashayeri, M., Piri, S., & **Abbasabadi, N**. (2024). Exploring U.S. Occupant perception toward indoor air quality via social media and NLP analysis. *Journal of Environmental Science and Public Health*. 8: 49-58. DOI:10.26502/jesph.96120205

Ashayeri, M., & **Abbasabadi, N**. (2024). Unraveling energy justice in NYC urban buildings through social media sentiment analysis and transformer deep learning. *Energy and Buildings*, 306, 113914. https://doi.org/10.1016/j.enbuild.2024.113914

Ashayeri, M., & **Abbasabadi, N**. (2022). A framework for integrated energy and exposure to ambient pollution assessment (iEnEx) Toward low-carbon, healthy, and equitable cities. *Sustainable Cities and Society*. 78, 103647. https://doi.org/10.1016/j.scs.2021.103647

Ashayeri, M., **Abbasabadi, N**., Heidarinejad, M., & Stephens, B. (2021). Predicting intraurban $PM_{2.5}$ concentrations using enhanced machine learning approaches and incorporating human activity patterns. *Environmental Research*. 196, 110423. https://doi.org/10.1016/j.envres.2020.110423

**Abbasabadi, N**., Ashayeri, M., Azari, R., Stephens, B., & Heidarinejad, M. (2019). An integrated data-driven framework for urban energy use modeling (UEUM). *Applied Energy, 253*:113550. https://doi.org/10.1016/j.apenergy.2019.113550

**Abbasabadi, N**., & Ashayeri, M. (2019). Urban energy use modeling methods and tools: A review and an outlook. *Building and Environment, 161*:106270. https://doi.org/10.1016/j.buildenv.2019.106270

**Abbasabadi, N**. (2019). Developing a data-driven framework for multi-scale integrated urban building and transportation energy modeling. *Prometheus, Issue 03: Building, Cities, and Performance I,* 36–39. ISSN: 2688-0776. https://prometheus.library.iit.edu/index.php/journal/article/view/75

Azari, R., & **Abbasabadi, N**. (2018). Embodied energy of buildings: A review of data, methods, challenges, and research trends. *Energy and Buildings, 168*, 225-235. https://doi.org/10.1016/j.enbuild.2018.03.003

## 4. PEER-REVIEWED CONFERENCE PAPERS

Kamalisarvestani, S., Ashayeri, M., & **Abbasabadi, N**. (2023). *An evolutionary multi-objective optimization tool for designing kinetic facades integrating daylight and lighting energy simulation*. The Research-Design Interface, ARCC 2023 International Conference. http://www.arcc-arch.org/wp-content/uploads/2023/09/ARCC2023ProceedingsFINAL-PW.pdf

Luitjohan, S., Ashayeri, M., & **Abbasabadi, N**. (2022). *An optimization framework and tool for context-sensitive solar-driven design using cellular automata (SDCA)*. 2022 Annual Modeling and Simulation Conference (ANNSIM), 593–604. https://doi.org/10.23919/ANNSIM55834.2022.9859496

Ashayeri, M., & **Abbasabadi, N**. (2021). *Energy justice, indoor air quality, and community resiliency against Covid-19 pandemic*. Environments by Design: Health, Wellbeing and Place; AMPS: Architecture, Media, Politics, Society. Proceedings Series 26.2. https://amps-research.com/wp-content/uploads/2022/08/Amps-Proceedings-Series-26.2.pdf

**Abbasabadi, N**., & Ashayeri, M. (2021). *Socioeconomic determinants of public health and residential building energy use in Chicago*. UIA 2021 RIO: 27th World Congress of Architects 2, 707–713.

**Abbasabadi, N**., & Azari, R. (2019). *A framework for urban building energy use modelling*. The Future of Praxis: Applied Research as a Bridge Between Theory and Practice, Proceedings of the ARCC Conference, Toronto. (pp. 386–94). (Best Paper Award Candidate). https://www.arcc-journal.org/index.php/repository/article/view/646

**Abbasabadi, N**., & Azari, R. (2019). *A data-driven framework for urban building operational energy use modeling*. 2019 Symposium on Simulation for Architecture & Urban Design (SimAUD). Simulation Series, 51(8), 71–77.

**Abbasabadi N**. (2018). *A predictive approach for an integrated urban building and transportation energy modeling: An application of artificial intelligence*. Building, Cities, and Performance, IIT 3rd International Graduate Student Symposium, Chicago, IL.

**Abbasabadi, N**., & Ashayeri, M. (2012). *Recognition of cultural identity and sustainable urban design: Case study Shah-Cheragh historical zone*. The first International Conference on Cultural Heritage and Identity Formation. Shiraz Azad University.

**Abbasabadi, N**., & Ashayeri, M. (2012). *Sustainability in architecture: The place of technology*. National Conference on Sustainable Development and Urban Construction. Esfahan Daneshpajoohan Institute of Higher Education.

**Abbasabadi, N**., & Ashayeri, M. (2012). *Energy management and environmental design: Towards sustainable architecture*. 2nd National Conference on Environmental Planning and Management (EPM). University of Tehran.

## 5. CONFERENCE PRESENTATIONS & POSTERS WITHOUT PAPERS

Worthy, A., **Abbasabadi, N.**, Ashayeri, M. (2024). *Leveraging Earth Observational Data to Assess Microclimates in Urban Building Energy Models: A Data-Driven Case*

*Study in Seattle, WA*. Climate Solutions Symposium. University of Washington, College of Built Environments. May 2024. Poster.

Liu, Y., **Abbasabadi, N**. (2024). *Enhancing Urban Building Energy Models with Façade Material Data via Unsupervised Learning from Street View Images*. Climate Solutions Symposium. University of Washington, College of Built Environments. May 2024. Poster.

Shariful, A., **Abbasabadi, N**., Steiner, J., Aoyama, C., Reeh, C., Boyd, K., & Stege, K. *Maximizing Carbon Capture Efficiency: A Computational Fluid Dynamics-Based Optimization Tool*. Climate Solutions Symposium. University of Washington, College of Built Environments. May 2024. Poster.

**Abbasabadi, N.**, Worthy, A., Liu, Y., Aymar, P., Vo, B., Butler, O., Obi, F., Chack, A., Zhao, Y., Zhang, E., Bass, A& Khan, J. (2024). *UW Campus Energy Model.* Climate Solutions Symposium. University of Washington, College of Built Environments. May 2024. Poster.

**Abbasabadi, N.**, Ashayeri, M. (2024). *Augmenting the Urban Building Energy Models with Real World Occupancy.* Climate Solutions Symposium. University of Washington, College of Built Environments. May 2024. Poster.

Ashayeri, M., **Abbasabadi, N.** (2024). *Exploring Energy Justice in NYC Through Deep Learning and Sentiment Analysis.* Climate Solutions Symposium. University of Washington, College of Built Environments. May 2024. Poster.

Worthy, A., **Abbasabadi, N.**, Ashayeri, M. (2024). *Leveraging earth observational data to assess the impact of microclimates on urban building energy models (UBEMs): A data-driven case study in Seattle, Washington*. US-Japan Workshop: Re-thinking the Relationship between Built Environment Conditions and Health and Well-being in Changing Climatic, Social, and Technological Contexts. Tokyo, Japan. March 28-29. Poster.

Ashayeri, M., **Abbasabadi, N.** (2023). *Evaluating spatial disparities of occupant sentiment on indoor air quality across communities in NYC using twitter data, NLP, and Emotion-AI Approaches*. Livable Cities, 2023 Architecture, Media, Politics, Society (AMPS) International Conference. New York City, NY. June 14-16. Presentation.

**Abbasabadi, N**., Ashayeri, M. (2022). *Covid-19 pandemic and equity within the built environment: exploring mobility, energy, and health disparities using smart data*. Health in all Design, The Environmental Design Research Association (EDRA). EDRA58. Greenville, SC. June 1-4, 2022. Digital Media and Presentation.

**Abbasabadi N**. (2019). A*n integrated data-driven framework for urban energy use modeling*. Energy-Efficient and Grid-Interactive Buildings, the Rosenfeld Symposium, Lawrence Berkeley National Laboratory, Berkeley, California, IL. Poster Presentation.

**Abbasabadi N**. (2019). *An integrated framework for urban energy use modeling: Applications of artificial intelligence*. Artificial Intelligence at IllinoisTech, Active Computational Thinking (ACT) Center, Department of Computer Science, Chicago, IL. Presentation.

## 6: INVITED TALKS & REFEREED PRESENTATIONS OF RESEARCH

**Abbasabadi, N.** (2023). *Hybrid twins: Scaling up digital twin for citywide energy modeling and management.* 2023 Region 10 Pacific Northwest Transportation Consortium (PacTrans) Conference, the US Department of Transportation (USDOT), University Transportation Center (UTC). Session: Digital Twins in Practice-What are

people are doing with this "new" technology. Invited Speaker & Panelist. (October 13, 2023).

**Abbasabadi, N.** (2023). *The convergence of AI, data, & digital twins technology for accelerating sustainability*. Collective Impact: Seattle. A unique experience that brings together passionate forward-thinkers. Hear from industry leaders shaping the future of sustainability. Hosted by SKANSA. Invited Speaker. (October 17, 2023).

**Abbasabadi, N.** (2023). *Hybrid twin: Scaling up digital twin from building to city levels via machine learning and physics-based simulations*. SBX 2023, Smart Buildings Exchange Conference. Session: Moving Beyond Fault Detection & Diagnostics. Invited Speaker & Panelist. (August 15, 2023)

**Abbasabadi, N.** (2023). *Digital twins for citywide energy modeling and management*. lunch meetings eScience Institute. Computing for the Environment (CS4env). Invited Speaker. (December 2023).

**Abbasabadi, N**. (2021). *Humanizing urban building performance*. CAPPA Ph.D. Consortium, the College of Architecture, Planning and Public Affairs, University of Texas at Arlington. Invited Speaker. (November 16, 2021).

## 7. OP-EDS/ GUEST POSTS

**Abbasabadi, N**., (2022). *How to reflect real-world occupancy into an urban-scale building energy model?,* International Building Performance Simulation Association - USA Regional Affiliate (IBPSA-USA), (invited to submit). August 15, 2022, online. https://www.ibpsa.us/how-to-reflect-real-world-occupancy-into-an-urban-scale-building-energy-model/

## 8. BOOK/DESIGN CODE

**Abbasabadi, N**., Ashayeri Jahan Kanemloo, M., Shali Amini, V., Mofidi Shemirani, M. (2012). *Design Code No.569: Documentaries & Bases for Design Code of Road Maintenance Station*. Vice Presidency for Strategic Planning and Supervision, Ministry of Road & Urban Development, Iran. http://tec.mporg.ir

**Abbasabadi, N**., Ashayeri Jahan Kanemloo, M., Shali Amini, V., Mofidi Shemirani, M. (2012). *Design Code No.571/1: A Prototype for Sustainable Road Support Center in Moderate & Humid Climate*. Presidency for Strategic Planning and Supervision, Ministry of Road & Urban Development, Iran. http://tec.mporg.ir

**Abbasabadi, N**., Ashayeri Jahan Kanemloo, M., Shali Amini, V., Mofidi Shemirani, M. (2012). *Design Code No.571/2: A Prototype for Sustainable Road Support Center in Cold Climate*. Vice Presidency for Strategic Planning and Supervision, Ministry of Road & Urban Development, Iran. http://tec.mporg.ir

**Abbasabadi, N**., Ashayeri Jahan Khanemloo, M., Mofidi Shemirani, M. (2012). In V. Shali Amini (Ed.), *Design Code No.571/3: A Prototype for Sustainable Road Support Center in Hot and Arid Climate*. Vice Presidency for Strategic Planning and Supervision, Ministry of Road & Urban Development, Iran. http://tec.mporg.ir

**Abbasabadi, N**., Ashayeri Jahan Khanemloo, M., Shali amini, V., Mofidi Shemirani, M. (2012). *Design Code No.571/4: A Prototype for Sustainable Road Support Center in Hot and Humid Climate*. Vice Presidency for Strategic Planning and Supervision, Ministry of Road & Urban Development, Iran. http://tec.mporg.ir

**Abbasabadi, N**., Ashayeri Jahan Khanemloo, M., Shali Amini, V., Mofidi Shemirani, M. (2012). *Design Code No.572: Salt & Brine Storage, Fuel Station, and Road Maintenance Facilities*. Vice Presidency for Strategic Planning and Supervision, Ministry of Road & Urban Development, Iran. http://tec.mporg.ir

**Abbasabadi, N**., Ashayeri Jahan Kanemloo, M., Shali Amini, A., Mofidi Shemirani, M. (2012). *Design Code No.570: Road Maintenance Stations Design Code*. Vice Presidency for Strategic Planning and Supervision, Ministry of Road & Urban Development, Iran. http://tec.mporg.ir

## II.C. SOFTWARE PRODUCTS /TOOLS

Shariful A., **Abbasabadi, N**., Steiner, J., Aoyama, C., Reeh, C., Boyd, K., & Stege, K. *A computational fluid dynamics-based design optimization tool for carbon capture enclosure*. Under development.

Ashayeri, M., & **Abbasabadi, N**. *IAQStudio (Indoor Air Quality Studio): A parametric tool for modeling integrated indoor air quality and energy simulations at the early-stage design.* Under development.

**Abbasabadi, N.**, & Ashayeri, M. **(**2023). *ArchiAI.io: AI for performance-driven design*. (https://www.archiai.io).

Ashayeri, M.**,** & **Abbasabadi, N.** (2022). *iEnEx.io: Integrated energy and exposure assessment: An interactive tool for exploring energy efficiency, health, and equity across scales. (https://www.ienex.io/)*. (Publication: DOI: 10.1016/j.scs.2021.103647).

**Abbasabadi, N.**, & Ashayeri, M. **(**2022). *EquitableResileince.io (ER.io): A web-based tool for exploring community resilience against covid pandemic through spatiotemporal mobility and occupancy modeling*. https://doi.org/10.5281/ZENODO.10746622

Ashayeri, M., & **Abbasabadi, N.** (2022). *IntegrativeSentiment.io (IS.io): A web-based software for spatiotemporally simulating and visualizing human feedback on social media data* (https://www.urbiilab.com/tool/is-io).

Ashayeri, M., & **Abbasabadi, N.** 2022. *NVResilience.io: A web-based tool for exploring natural ventilation (NV) implications on community social and health resilience against airborne particles and viruses.* https://doi.org/10.5281/ZENODO.10725177

Luitjohan, S. Ashayeri, M., & **Abbasabadi, N**. 2021. *SCDA: A parametric tool for solar-driven design using generative cellular automata,* GitHub repository, https://github.com/URBiiLAB/SDCA

## II.D. SELECTED RESEARCH GRANTS & FELLOWSHIP

| | |
|---|---|
| Submitted. Pending | National Science Foundation (NSF), CIS-Civil Infrastructure Systems. Early CAREER: CityEnerTwin: Digital Twin Synchronizing Urban Building Energy Flows and Human-Social Dynamics. Abbasabadi, N. (PI). Requested fund $511,126. Status: Submitted 2024; Pending. |
| Submitted. Pending | NSF, Smart and Connected Communities (S&CC). SCC-IRG Track 1: Q-UBEM: A Sociotechnical Approach for Developing a Platform for Health-driven and Equitable Decarbonization of the Built Environment. Ashayeri, M. (Lead Principal Investigator (PI) / SIU)., Duram, L. (Co-PI / SIU)., Abbasabadi, N. (Co-PI / Lead UW PI)., Meek, C. (Co-PI / UW)., & Simonen, K. (Co-PI / UW); Other senior personnel: Sturts Dossick |

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| | (UW), C., Kirschen, D. (UW), & Samadi, Y. (SIU). Total requested fund $2,500,000. Funds sought by me/UW $1,432,540. Status: Submitted 2024; Pending. |
| To be revised & resubmitted | NSF, Environmental Sustainability Program. Collaborative Research: Towards Sustainable Intelligent Cities--A Novel Framework for Urban Energy Modeling Integrating Human Systems and Micro-Environments. Abbasabadi, N. (UTA PI)., & Ashayeri, M. (SIU PI). Total requested fund $299,000. Funds sought by me $184,060.20. Status: Revised / to be resubmitted |
| 2024 | University of Washington (UW), Royalty Research Fund (RRF). CityEnerTwin: A Digital Twin Platform for Urban Building Energy Modeling to Support Decarbonization of the Built Environment - A Case Study of the University of Washington Campus. Abbasabadi, N. (PI). Requested fund $39,722. Status: Awarded $39,722. Current. |
| 2024 | UW, Population Health Initiative (PHI), Climate Change Pilot Grant. DecarbCityTwin: A Platform for Equitable Decarbonization of the Built Environment. Abbasabadi, N. (PI/UW Lead). CO-PIs: Simonen, K. (UW, architecture)., Meek, C. (UW, architecture), Sturts Dossick, C. (UW, Construction Management), Kirschen, D. (UW, Electrical & Computer Engineering), & Ashayeri, M. (SIU, Architecture). Requested fund: $50,000, with an additional $20,000 in match fund, totaling $70,000. Status: Awarded in 2024. Current. |
| 2023 | University of Washington, Population Health Initiative (PHI), Climate Change Planning Grant. DecarbCityTwin: A Platform for Equitable Decarbonization of the Built Environment. Abbasabadi, N. (PI/UW Lead). CO-PIs: Simonen, K. (UW, architecture)., Meek, C. (UW, architecture), Sturts Dossick, C. (UW, Construction Management), Kirschen, D. (UW, Electrical & Computer Engineering), & Ashayeri, M. (SIU, Architecture). Requested fund: $10,000, with an additional $10,000 in match fund, totaling $20,000. Status: Awarded $10,000. |
| 2023 | University of Washington Microsoft Azure Cloud Computing Credits. Abbasabadi, N. (PI). Received Cloud Computing Credits for our web-based platform, ArchiAI.io. Status: Received $10,000 Azure Cloud Computing Credits. |
| 2023 | University of Washington, College of Built Environments Leads Program, Summer 2023 Leads Project. Enhancing the CBE Research Portal. Abbasabadi, N., & Sturts Dossick, C. Status: Received $5,289. |
| 2023-2024 | University of Washington, College of Built Environments, Applied Research Consortium (ARC). Machine Learning in Design for Well-being. Collaboration with MITHUN. ARC Fellow/Graduate Student: Ka Kit Chiu. UW Advisor: Abbasabadi, N. Firm Advisors: Steiner, J., Stege, K. Status: Current 2023-24. Received $800/quarter, totaling $2,400. |
| 2022-2023 | University of Washington, College of Built Environments, Applied Research Consortium (ARC). A Computational Fluid Dynamics-based Design Optimization Tool for Carbon Capture Enclosure. Collaboration with MITHUN. ARC Fellow/Graduate Student: Shariful A. UW Advisor: Abbasabadi, N. Firm Advisors: Steiner, J., Aoyama, C., Reeh, C., Boyd, K., Stege, K. Status: Completed 2022-23. Received $800/quarter, totaling $2,400. |
| 2022-2023 | Geisel Grant. A Community-engaged Approach Critical to Energy Efficiency Systems: Towards Just and Sustainable Built Environments. Abbasabadi, N. (PI), Makhmalbaf, A. (Co-PI) & Chiessa, D. (Co-PI). Status: Awarded $7,000. |

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| 2022 | University of Texas System, Grant for Participation in Association of College and University Educators (ACUE) Program, Effective Teaching Practices, Endorsed by the American Council on Education (ACE). Status: Awarded $1,200. |
| 2022 | 2022 AIA Upjohn Research Initiative. A Decision Support Framework and Tool for Low-carbon, Healthy, and Equitable Community Design and Retrofit. Ashayeri, M (PI)., & Abbasabadi, N. (co-PI), Industry Collaborator: Bergmann, T (CannonDesign). Funds Requested: $39,000. Status: Not funded. |
| 2020 | American Institute of Architects (AIA) New York, Center for Architecture. Haskell Award for Student Journals. Recognition for Editing the Prometheus: Journal of the PhD Program in Architecture, IIT. Awarded. |
| 2019 | Lawrence Berkeley National Lab. Conference fellowship, the 2019 Art Rosenfeld Symposium, 2019. |
| 2019 | National Science Foundation, Travel Grant, Attending the 2019 NSF-NHER, Wall of Wind Experimental Facility Research Planning Workshop. 2019. |
| 2019 | Illinois Institute of Technology. College of Architecture, Travel Grant, 2019. |
| 2018 | Illinois Institute of Technology, College of Architecture. Dean Scholarship for organizing the 2018 IIT symposium and editing the IIT Architecture journal. Received: $5,000. |
| 2018 | SISE Fellow, Summer Institute on Sustainability and Energy. University of Illinois in Chicago (UIC). |
| 2014-2019 | Illinois Institute of Technology, Merit Scholarship, (Teaching & Research Assistant), $38,000. 2014-2019. |
| 2010-2012 | Ministry of Road & Urban Development, General Office of Esfahan Province, Iran. Study of Clean Energy Resources for Institutional Buildings: Application of Solar Energy and Wind-Turbine. Abbasabadi, N. (PI)., & Ashayeri, M. (Co-PI); Other collaborators: Shaliamini, V. Status: Awarded $15,000, 2010-2011. |
| 2009-2012 | Ministry of Road & Urban Development, Iran. Developing codes and prototypes for sustainable low energy buildings in Iran. Code: 569, 570, 571/1, 571/2, 571/3, 571/4, 572. Abbasabadi, N. (PI)., & Ashayeri, M. (Co-PI); Other collaborators: Shaliamini, V. & Mofidi, M. Status: Awarded $185,000, 2009-2012. |

## III. TEACHING

### III.A. AWARDS, HONORS & CERTIFICATES

**1. Recognition of Student Work**

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| Design Competition | AIA Fort Worth, Perspectivas FW 2022 Honor Award. ARCH-5670: Advanced Design Studio. Studio Instructor, Student: Fausto Sanchez. Project: "Modulo Urbano." |
| | AIA Fort Worth, Perspectivas FW 2022 Exhibitor Award, ARCH-5670: Advanced Design Studio. Studio Instructor, Student: Fausto Sanchez. Project: "Modulo Urbano." |
| Research | UTA, CAPPA. 2021 Justice, Equity, Diversity, and Inclusion (JEDI) Award. Committee member, Ph.D. Student: Shadin Nimery. Project "What are the socio-economic implications of the digital divide on the notion of smart city in the DFW Metropolitan area?" |

**2. Certificate**

Association of College and University Educators (ACUE)* Certified, Effective Teaching Practices, Endorsed by the American Council on Education (ACE). Nov. 7, 2022.

*__Note:__ This certification followed an 8-month program from January 13, 2022, to September 29, 2022, based on ACUE's Effective Teaching Practice Framework. The course includes <u>five units and 25 modules</u> on instructional skills, covering topics including designing an effective course and class, establishing a productive learning environment, using active learning techniques, promoting higher order thinking, and assessing to inform instruction and promote learning. https://acue.org/effective-practice-framework/

**3. Teaching Funding**

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|---|---|
| Integrated Teaching Research / Cloud Computing Support | UW Microsoft Azure Cloud Computing Credits. Abbasabadi, N. (PI). Received Cloud Computing Credits for our web-based platform, ArchiAI.io, which aims to facilitate data-driven studies with machine learning, making these techniques more accessible to wide range of users including architecture students with limited programming expertise. This support aimed to facilitate the integration of the platform into courses including the ARCH 593: Research Seminar, ML in the Built Environment and ARCH 508: Research Studio, AI in Performance-Driven Design, scheduled for Winter 2024 and Spring 2024. Status: Received $10,000 Azure Cloud Computing Credits. |
| Career Development | University of Texas System. Grant for participation in Association of College and University Educators (ACUE) Program, Effective Teaching Practices (EFP), Endorsed by the American Council on Education (ACE). Status: Awarded $1,200. |

**III.B. ACADEMIC COURSES TAUGHT**

**1. UW Department of Architecture; Built Environments; Civil & Environmental Engineering**

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|---|---|
| Spring 2024 | ARCH 508 A: Arch Research Studio II: AI in Performance-driven Design. 6 Credits. |
| Spring 2024 | CEE (Civil and Environmental Engineering) 800 A: Doctoral Dissertation. 10 Credits. Student: Amanda Worthy, PhD Program, Civil & Environmental Engineering |
| Spring 2024 | BE 600 A: Independent Study/Research. 6 Credits. Student: Yingjie Liu, PhD Program, Built Environments |
| Spring 2024 | BE 600 B: Independent Study/Research. 6 Credits. Student: Ka Kit Chiu, Design Technology |
| Winter 2024 | ARCH 593 A: Arch Research Seminar I. AI/ML in the Built Environment. 3 Credits. |
| Winter 2024 | CEE 800 A: Doctoral Dissertation. 10 Credits. Student: Amanda Worthy, PhD Program, Civil & Environmental Engineering |
| Winter 2024 | BE 600 A: Independent Study/Research. 5 Credits. Student: Yingjie Liu, PhD Program, Built Environments |
| Winter 2024 | BE 600 B: Independent Study/Research. 6 Credits. Student: Ka Kit Chiu, Design Technology |
| Autumn 2023 | CEE 800 A: Doctoral Dissertation. 10 Credits. Student: Amanda Worthy, PhD Program, Civil & Environmental Engineering |
| Autumn 2023 | BE 600: Independent Study/Research. 3 Credits. Student: Ka Kit Chiu, Design Technology |

| Spring 2023 | ARCH-598 D: Augmented Intelligence & Sustainable Design. 3 Credits. |
|---|---|
| Spring 2023 | BE 600: Independent Study/Research. 3 Credits.<br>Student: Amanda Worthy, PhD Program, Civil & Environmental Engineering |
| Spring 2023 | BE 600: Independent Study/Research. 3 Credits.<br>Student: Anik Md Shariful Alam, Design Technology |
| Winter 2023 | ARCH-504 B: Architectural Integration Studio III. 6 Credits.<br>Studio Coordinator: Professor Rob Corser |
| Winter 2023 | BE 600: Independent Study/Research. 3 Credits.<br>Student: Anik Md Shariful Alam, Design Technology |
| Autumn 2022 | ARCH-498 B: Augmented Intelligence & Performance: Towards Sustainable Cities. 3 Credits. |
| Autumn 2022 | BE 600: Independent Study/Research. 3 Credits.<br>Student: Anik Md Shariful Alam, Design Technology |

## 2. UTA School of Architecture
**Assistant Professor**

| Spring 2022 | ARCH-4395/5395: Performance-driven Design. |
|---|---|
| Spring 2022 | ARCH-3554-3: Design Studio: Architecture II. 6 Credits. |
| Fall 2021 | ARCH-5670-001: Adv. Design Studio. 6 Credits. |
| Summer 2021 | ARCH-3323/5323-001/900-Construction Materials and Methods. 3 Credits. |
| Spring 2021 | ARCH-5670-002: Adv. Design Studio. 6 Credits. |
| Spring 2021 | ARCH-4395/5395-003: Selected Topics ARCH / Sustainable Intelligent City. 3 Credits. |
| Fall 2020 | ARCH-3323/5323-001/900-Construction Materials and Methods. 3 Credits. |
| Fall 2020 | ARCH-3553-006-Design Studio: Architecture I. 5 Credits. |

## 3. IIT College of Architecture
**Adjunct Professor**

| Spring 2020 | ARCH-202: Design Studio. 6 Credits. |
|---|---|
| Fall 2019 | ARCH-113: Design Studio. 6 Credits. |
| Spring 2019 | ARCH-114: Design Studio. 6 Credits. |

**Teaching Assistant**

| Spring 2017 | ARCH-520: Introduction to Urbanism. 3 Credits. |
|---|---|
| Fall 2016 | AURB-201: The Elements of Urbanism. 3 Credits. |
| Spring 2016 | AURB-201: The Metropolis. 3 Credits. |

Fall 2015          ARCH-334: Materials. 3 Credits.

Spring 2015        AAH-120: History of World Architecture II. 3 Credits.


## III.C. DISSERTATIONS & THESES ADVISED

Ph.D. Dissertation Chair. "Materials classification for urban building energy modeling using computer vision". University of Washington, Built Environments. (Autumn 2023-present). Advised: Yingjie Liu

Ph.D. Dissertation Chair. "A framework for assessing the impact of microclimate and future climate changes on urban building energy systems". University of Washington, Department of Civil and Environmental Engineering. (Winter 2023-present). Advised: Amanda Worthy

Master of Design Technology. Chair. "AI in Health-driven Design". University of Washington, Department of Architecture (2023-present). Advised: Eva Zhang

Master of Design Technology. Chair. "Digital Twin". University of Washington, Department of Architecture (2023-present). Advised: Yongqin Zhao

Master of Design Technology Committee Member. "Office design optimization for hybrid work". University of Washington, Department of Architecture (2023). Advised: Nicolas Lomas

Master of Design Technology Committee Member. "Efficient parametric design-space exploration with reinforcement learning-based recommenders". University of Washington, Department of Architecture. (2022-2023). Advised: Anik Md Shariful Alam

Master of Architecture Committee Member. "Integrated approach to the housing in Ger District of Ulaanbaatar". University of Washington, Department of Architecture. (2023). Advised: Indra Erdenebat

Master's Thesis Committee Member. "Master planning for mixed-use development: integrated healthy and energy efficient built environment". Southern Illinois University. (2021-present). Advised: Soroush Piri

Ph.D. Dissertation Committee Member. "Smart cities and digital divide". University of Texas at Arlington, Planning & Landscape Arch. (2020-2022). Advised: Shadin Nimery

Master's Thesis Committee Member. "A multi-objective optimization tool for designing kinetic shading based on integrated daylight and lighting performance". Architecture. Southern Illinois University. (2021-2022). Advised: Samin Kamalisarvestani

Undergraduate Honors Activities. "Biomaterials: Energy and health applications". architecture. (2022). Advised: Jacqueline Hernandez

Master's Thesis Committee Member. "Integrating generative form-finding with context-sensitive parametric optimization of solar radiation". Architecture. Southern Illinois University. (2021). Advised: Seth Luitjohan

**Summary of UW Dissertations and Theses Advised**

|  | Degree | Role on committee | # of Students |
|---|---|---|---|
| 2023-present | PhD in Built Environments | Chair | 1 |
| 2023-present | PhD in Civil & Environmental Engineering | Chair | 1 |
| 2023-present | MS Design Technology | Chair | 2 |
| 2022-present | MS Design Technology | member | 2 |
| 2022-present | MArch | member | 1 |
| 2022-present | Applied Research Consortium (ARC) | Advisor | 2 |

## III.D. GUEST PRESENTATIONS

Guest Presenter. The Convergence of AI, Data, and Digital Twins Technology for Advancing Sustainability in the Built Environment. ARCH 592: Research Methods. Presented at the University of Washington Department of Architecture, Professor Mehlika Inanici, October 2023.

Guest Presenter. Augmented Intelligence for Accelerating Sustainability: Models, Methods, & Tools. ARCH 592: Research Methods. Presented at the University of Washington Department of Architecture, Professors Ann Huppert and Tyler Sprague, May 2023.

Guest Presenter. Models, Methods, & Tools: Towards Sustainable Buildings and Cities. ARCH 362. Presented at the University of Washington Department of Architecture, Professor Brian L. McLaren, Winter 2023.

Guest Presenter. Models, Methods, & Tools: Towards Sustainable Buildings and Cities. Architecture 592: Research Methods. Presented at the University of Washington Department of Architecture, Professor Mehlika Inanici, November 2022.

Guest Presenter. UW Department of Architecture. Professionals Advisory Council (PAC) Meeting, November 2022.

## IV. SERVICE

## IV.A. UNIVERSITY SERVICE

**1. UW**   Committee Member, Department of Architecture, Tenure Promotion and Merit Review Committee. 2024-present

Committee Member, Department of Architecture, Design Technology Program Committee. 2022-present

Volunteer Steering Committee, Climate Solutions Community of Practice (COP). 2023-present

Search Committee Member, Department of Architecture, Digital Modeling/Fabrication Search Committee. 2022-2023

Committee Member, College of Built Environments, Inspire Fund. 2023

**2. UTA**   Committee Member, School of Architecture, Curriculum Committee. 2020-2022

| | |
|---|---|
| | Committee Member, School of Architecture, Academic Grievances. 2020-2022 |
| | Committee Member, CAPPA Faculty Grants Review Committee. 2020-2022 |
| **3. IIT** | Symposium Organizer, PhD Program in Architecture., College of Architecture, Illinois Institute of Technology. 2018-2019 |
| | Editor. Prometheus Journal, Issue 03: Buildings, Cities, and Performance., Journal of the PhD program in Architecture. ISSN 2688-0776. IIT Architecture Chicago. |

## IV.B. PROFESSIONAL SERVICE

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|---|---|
| **1. Proposal Review for NSF** | Proposal Reviewer, National Science Foundation (NSF), Environmental Sustainability Program. 2022 |
| | Proposal Reviewer, National Science Foundation (NSF), Environmental Sustainability Program. 2022 |
| **2. Journal, Conference, Organizations** | Guest Editor. MDPI Journal. [Architecture] Special Issue: Transforming Built Environment Performance through AI-Driven and Physics-Based Simulations. 2024-present. |
| | Editorial Review Board Member, Frontiers in Sustainable Cities, Specialty section: Urban Energy End-Use. 2020-present |
| | Editor, Journal Editor, Prometheus Journal. Issue 03: Building, Cities, and Performance. College of Architecture, Illinois Institute of Technology. 2018-2020 |
| | Reviewer, Journal Article, Nature Publishing Group, Nature Energy. 2020-present |
| | Reviewer, Journal Article, Elsevier Journals: Building and Environment, Applied Energy, Energy and Buildings, etc. 2019-present |
| | Reviewer, Conferences including Building Performance Analysis Conference and SimBuild – Co-organized by The American Society (ASHRAE) and International Building Performance Simulation Association (IBPSA)-USA. |
| | Working group, International Building Performance Simulation Association (IBPSA). 2022-present |
| **3. Public and Community Service** | Judge for evaluating the community innovation projects, 2017 Global Leaders Program at Illinois Institute of Technology, Chicago, IL. April 2017 |
| | Performance; The Chicago Architecture Biennial 2015. Served as a performer in *Superpowers of Ten* at the Chicago Architecture Biennial 2015, Project: Andrés Jaque / Office for Political Innovation. |

## IV.C. MEMBERSHIP

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|---|---|
| **1. Professional Society** | American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), Member, 2015-present |
| | American Institute of Architects (AIA), Associate, 2017-2022 |
| | International Building Performance Simulation Association (IBPSA-USA), 2018 |
| | Tehran Construction Engineering Organization (TCEO), Member, 2013 |
| **2. Academic Organizations** | Building Technology Educators Society (BTES) |
| | Society of Building Science Educators (SBSE) |